

WHAT IS CLAIMED IS:

1. A magnetic head for recording signals to form adjacent signal tracks on a magnetic recording medium at
5 different azimuth angles and for recording signals to form alternately-adjacent signal tracks on the magnetic recording medium at the same azimuth angle, the magnetic head comprising:

a recording device; and
10 a servo device disposed in parallel with the recording device in a direction in which the magnetic head moves over the magnetic recording medium,

wherein, while the recording device is recording a signal to form a signal track on the magnetic recording
15 medium at a certain azimuth angle, the servo device moves over a signal track that has already been formed at the same azimuth angle as the certain azimuth angle by recording a signal.

20 2. A magnetic head according to Claim 1, wherein the servo device moves over a signal track that has been formed by recording a first signal immediately before a current recording of a second signal on the magnetic recording medium by the recording device, the first signal being recorded by
25 the same recording device used for the second signal that is currently being recorded.

3. A magnetic head according to Claim 1, wherein the

servo device is a magnetoresistive thin-film magnetic head.

4. A magnetic head according to Claim 1, further
comprising a reproducing device which overlaps the recording
5 device in a thickness direction thereof.

5. A magnetic head according to Claim 4, wherein the
reproducing device is a magnetoresistive thin-film magnetic
head.

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6. A magnetic recording apparatus comprising:
a magnetic head, comprising a recording device and a
servo device disposed in parallel with the recording device
in a direction in which the magnetic head moves over the
15 magnetic recording medium, for recording signals to form
adjacent signal tracks on a magnetic recording medium at
different azimuth angles and for recording signals to form
alternately-adjacent signal tracks on the magnetic recording
medium at the same azimuth angle;

20 servo amplifying means for processing and outputting a
signal read from the servo device that has moved over a
signal track in a certain recording operation, and for
processing and outputting a signal read from the servo device
in a currently carried out recording operation on the
25 magnetic recording medium; and

servo executing means comprising a comparator circuit
and a recording device movement position correcting means,
the comparator circuit comparing levels of the outputs,

wherein, while the recording device is recording a signal to form a signal track on the magnetic recording medium at a certain azimuth angle, the servo device moves over a signal track that has already been formed at the same azimuth angle as the certain azimuth angle by recording a signal.

7. A magnetic recording apparatus according to Claim 6, wherein the servo device moves over a signal track that has been formed by recording a first signal immediately before a current recording of a second signal on the magnetic recording medium by the recording device, the first signal being recorded by the same recording device used for the second signal that is currently being recorded.

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8. A magnetic recording apparatus according to Claim 6, wherein the servo device is a magnetoresistive thin-film magnetic head.

20 9. A magnetic recording apparatus according to Claim 6, wherein the magnetic head further comprises a reproducing device which overlaps the recording device in a thickness direction thereof.

25 10. A magnetic recording apparatus according to Claim 9, wherein the reproducing device is a magnetoresistive thin-film magnetic head.

11. A magnetic recording/reproducing apparatus
comprising:

a magnetic head, comprising a recording device and a
servo device disposed in parallel with the recording device
5 in a direction in which the magnetic head moves over the
magnetic recording medium, for recording signals to form
adjacent signal tracks on a magnetic recording medium at
different azimuth angles and for recording signals to form
alternately-adjacent signal tracks on the magnetic recording
10 medium at the same azimuth angle;

servo amplifying means for processing and outputting a
signal read from the servo device that has moved over a
signal track in a certain recording operation, and for
processing and outputting a signal read from the servo device
15 in a currently carried out recording operation on the
magnetic recording medium; and

servo executing means comprising a comparator circuit
and a recording device movement position correcting means,
the comparator circuit comparing levels of the outputs,
20 wherein, while the recording device is recording a
signal to form a signal track on the magnetic recording
medium at a certain azimuth angle, the servo device moves
over a signal track that has already been formed at the same
azimuth angle as the certain azimuth angle by recording a
25 signal, and

wherein, in a reproducing operation, a signal read from
the reproducing device is sent to the servo amplifying means
and is output as a reproduction signal from the servo

amplifying means, so that the servo amplifying means is used, not only as a servo circuit, but also as a reproduction circuit.

5 12. A magnetic recording/reproducing apparatus according to Claim 11, further comprising reproduction amplifying means, disposed separately from the servo amplifying means, for outputting the signal read from the reproducing device, wherein, in the reproducing operation,
10 the reproduction amplifying means outputs the signal read from the reproducing device as a reproduction signal, and the servo amplifying means outputs the signal read from the servo device as a reproduction signal.

15 13. A magnetic recording/reproducing apparatus according to Claim 11, wherein the servo device moves over a signal track that has been formed by recording a first signal immediately before a current recording of a second signal on the magnetic recording medium by the recording device, the
20 first signal being recorded by the same recording device used for the second signal that is currently being recorded.

14. A magnetic recording/reproducing apparatus according to Claim 11, wherein the servo device is a
25 magnetoresistive thin-film magnetic head.

15. A magnetic recording/reproducing apparatus according to Claim 11, wherein the magnetic head further

comprises a reproducing device which overlaps the recording device in a thickness direction thereof.

16. A magnetic recording/reproducing apparatus
5 according to Claim 15, wherein the reproducing device is a magnetoresistive thin-film magnetic head.

17. A magnetic recording/reproducing apparatus
according to Claim 12, wherein the servo device moves over a
10 signal track that has been formed by recording a first signal on immediately before a current recording of a second signal on the magnetic recording medium by the recording device, the first signal being recorded by the same recording device used for the second signal that is currently being recorded.

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18. A magnetic recording/reproducing apparatus
according to Claim 12, wherein the servo device is a magnetoresistive thin-film magnetic head.

20 19. A magnetic recording/reproducing apparatus
according to Claim 12, wherein the magnetic head further comprises a reproducing device which overlaps the recording device in a thickness direction thereof.

25 20. A magnetic recording/reproducing apparatus
according to Claim 19, wherein the reproducing device is a magnetoresistive thin-film magnetic head.